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**2005 Second Semi-Annual
Groundwater Monitoring Report**

prepared for

Grenada Manufacturing, LLC
Grenada, Mississippi
I.D. No. MSD 007 037 278

Prepared by:
Global Environmental Solutions, Inc.
Marietta, Georgia

January 2006
GESI Project No. 98537.01A

January 4, 2006

Mr. Toby Cook
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289-0385

Re: **Second Semi-Annual Groundwater Sampling Report (S2-2005)**
Grenada Manufacturing, LLC - Grenada, Mississippi
MSD 007 037 278
GESI Project No. 98537.01A

Dear Mr. Cook:

The enclosed above-referenced report is submitted on behalf of Grenada Manufacturing, LLC (Grenada Manufacturing) and Textron, Inc. (Textron) to the Mississippi Department of Environmental Quality (MDEQ). This report presents the laboratory analytical results for groundwater samples collected during the second semi-annual sampling event (S2-2005) as required by the HWMP No. HW-007-037-278 for the Grenada Manufacturing facility located in Grenada, Mississippi. The sampling was performed on October 24, 2005 for the groundwater monitoring wells installed adjacent to SWMU 2 and SWMU 27.

If you have any questions, please do not hesitate to call me at (770) 690-9552, ext. 221.

Sincerely,
GLOBAL ENVIRONMENTAL SOLUTIONS, INC.



Brian A. Spucy, P.E.
President

Enclosure

cc: Jamieson Schiff – Textron, Inc.
Dave McCabe – Textron, Inc.
Don Webster (U.S. EPA Region 4)
Don Williams (Grenada Manufacturing, LLC)

2121 newmarket pkwy
suite 140
marietta, ga 30067
tel 770 690 9552
fax 770 690 9529

www.gesinc.com

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1.0 INTRODUCTION

Global Environmental Solutions, Inc. (GESI) is pleased to submit the 2005 Second Semi-Annual Groundwater Monitoring Report for the Grenada Manufacturing, LLC (Formerly Randall-Textron) manufacturing plant located at 635 Highway 232 East in Grenada, Mississippi. The sampling and analysis effort was conducted by PREMO, Inc. in accordance with Section IV.F.1. of Grenada Manufacturing's Hazardous Waste Management (HWM) Permit No. HW-007-037-278 and the *Revised Assessment Report and Closure Plan for the Chrome Plating Line Area*, dated January 2003 (*Assessment Report*).

The Grenada facility was constructed in 1960 by Lyons, Inc. In 1966, North American Rockwell (now Arvin Meritor) purchased the facility. Textron Automotive Company (formerly Randall-Textron) purchased the site in 1985. Grenada Manufacturing purchased the facility in 1999 from Textron, Inc. The facility produces metal parts for automotive and other applications. Operations at the facility have included metal stamping, rolling, welding, cleaning, buffing, plating, and painting. Chromium plating operations were discontinued on January 19, 2001 and painting operations were discontinued in August 2002.

In December 2000, a Class II Permit Modification was requested to change the background well for the closed Equalization Lagoon [Solid Waste Management Unit (SWMU) 2] from monitoring well MW-1 to MW-23. The Mississippi Department of Environmental Quality (MDEQ) concurred with the change on March 12, 2001 and issued a new permit.

In accordance with the *Assessment Report*, post-closure care groundwater monitoring was also conducted for the Chrome Plating Line Area (SWMU-27). Groundwater samples were collected from wells MW-23 and MW-24 for total and hexavalent chromium and pH analyses.

For the second semi-annual monitoring period of 2005, this report includes the following:

- (1) A summary of the performance of the monitoring program,
- (2) Groundwater analytical results associated with SWMUs 2 and 27,
- (3) A potentiometric surface map based on groundwater elevations obtained on the sampling date, and
- (4) A statistical evaluation of analytical data.

2.0 CLOSED EQUALIZATION LAGOON

Groundwater samples were obtained from monitoring wells associated with the closed Equalization Lagoon (MW/RT-2, MW/RT-4, MW/RT-5, and MW-23) on October 24, 2005. In accordance with Grenada's HWM Permit, groundwater samples obtained from the closed Equalization Lagoon wells were analyzed for chromium, toluene, trichloroethene and those constituents previously detected. The analyses were performed in accordance with Mississippi Hazardous Waste Management Regulations (MHWMR) 264 Appendix IX (RCRA metals, volatile organics and semi-volatile organics only).

Table 1 provides a listing of the parameters analyzed for each well sampled.

2.1 Groundwater Flow Rate and Direction

Water level measurements obtained prior to purging the monitoring wells are summarized on Table 2. The water levels were measured with an electrical probe and were recorded to the nearest 0.01-foot. The water level data obtained were used to produce a potentiometric surface map (Figure 1) that depicts the interpreted groundwater surface. The map indicates that the direction of groundwater flow beneath the closed Lagoon is generally to the northwest. The flow pattern appears to be consistent with the previous groundwater flow direction for this area. Note that water level data obtained from monitoring well MW-24 was not used on the potentiometric surface map. Well MW-24 was originally installed and surveyed as a flush-mounted well. Subsequently, a riser pipe was added to the well; therefore, the well will need to be resurveyed to obtain accurate groundwater elevations. Copies of the Well Sampling Forms used during this sampling event are included in Appendix A.

The groundwater flow velocity was estimated using October 24, 2005 groundwater elevation data and the modified Darcy equation:

$$v = Ki/\eta_e$$

Where:

v =	Groundwater flow velocity
K =	Hydraulic conductivity (43.1 ft/day)
i =	Hydraulic gradient (10.5×10^{-4} ft/ft)
η_e =	Effective porosity (40%)

Based on a multi-well aquifer test conducted within the upper aquifer during the Remedial Investigation activities, the hydraulic conductivity (K) ranges from 34.6 ft/day to 51.8 ft/day with a geometric mean value of 43.1 ft/day (Brown and Caldwell, 2003). The hydraulic gradient (i) was calculated from the October 2005 potentiometric surface map (Figure 1). Direct shear tests performed in April 2001 indicated an average effective porosity of approximately 43 percent. However, given the nature of the sand (well sorted, poorly-graded), an effective porosity of 40 percent was selected to be representative of the upper aquifer (Brown and Caldwell, 2003). The estimated groundwater flow velocity for the area of the closed Equalization Lagoon was calculated as 0.113 ft/day for October 24, 2005.

2.2 Sampling Procedures

Groundwater sampling procedures were performed in accordance with the United States Environmental Protection Agency (EPA) Region 4 Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM), dated November 2001.

Prior to sample collection, the monitoring wells were purged using a low-flow peristaltic pump with dedicated Teflon-lined tubing. The depth of water was continuously monitored during purging. Water quality parameters including pH, specific conductance, dissolved oxygen, temperature, turbidity and redox potential were monitored during purging. Purging was considered complete when the water quality parameters stabilized. Purge water was containerized in DOT-approved 55-gallon drums. Due to the presence of high turbidity, well MW-23 was purged using a Water Spout II purge pump to reduce the turbidity prior to sampling. After purging, groundwater samples were obtained using

a low-flow peristaltic pump. Each sample was collected directly from dedicated sample tubing. The groundwater samples collected from wells MW/RT-2, MW/RT-4, MW/RT-5, and MW-23 were transported to Analytical Services, Inc. in Norcross, Georgia for analyses. Copies of the Well Sampling Forms are included in Appendix A.

2.3 Water Quality Analyses

The analytical results, summarized in Table 3, indicate that trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), and vinyl chloride were detected in all four wells at concentrations exceeding their respective Mississippi Tier 1 Target Remediation Goal (TRG). Detected concentrations of TCE, 1,1-DCE and vinyl chloride are consistent with previous data.

In addition, benzene, toluene, 1,1,2-trichloroethane (TCA), tetrachloroethene (PCE) and total chromium were detected above the detection limit and their respective TRG in well MW/RT-2. Toluene has not been detected in well MW/RT-2 since March 2000. PCE in well MW/RT-5 was also present at a concentration above the TRG. The analytical results are included in Appendix B. A historical summary data table is provided in Appendix C.

2.4 Quality Assurance/Quality Control Samples

The quality assurance/quality control (QA/QC) sample analyses are included in Appendix B. The QA/QC samples include a trip blank, a field blank, a blind duplicate sample and laboratory QA/QC, including method blanks and surrogates.

Trip Blank

The analytical results for the trip blank indicate that no constituents were detected at or above the method detection limit.

Duplicate Sample

A duplicate sample (Dup-1) was collected from monitoring well MW/RT-2. Relative percent differences (RPDs) were calculated for the constituents with detected

concentrations for comparison purposes (Table 4). An RPD provides an indication of how variable the analytical results are between the original and its duplicate sample. If constituents were undetected in one or both samples, RPDs were not calculated. In general, a field duplicate RPD value greater than 35 percent for water samples is an indication of imprecision. The calculated RPDs were below 35 percent indicating satisfactory precision.

Field Blank Sample

One field blank sample was collected during the October 2005 sampling event. The analytical results for the field blank indicate that no constituents were detected at or above the method detection limit.

Matrix Spike/Matrix Spike Duplicates

MS/MSDs were analyzed at the required frequency. The percent recovery values are within the laboratory QC limits with the exception of hexavalent chromium. The recoveries of hexavalent chromium in MW/RT-5 MS/MSD are 26 and 22 percent, respectively, which are less than the 75 to 125 percent QC limits. Therefore, hexavalent chromium data are qualified as estimated (UJ) due to potential matrix interferences.

2.5 Summary of Statistical Analysis

2.5.1 Overview

Groundwater analytical data obtained from background well MW-23 were statistically compared to the compliance wells (MW/RT-2, MW/RT-4, and MW/RT-5) in accordance with Condition IV.L of the Grenada facility permit. The statistical methods used were selected based on the characteristics of each data set and applicable U.S. EPA guidance documents including the "Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance," dated April 1989 and its Addendum, dated July 1992. Two total chromium background data points for well MW-23 were not used in the statistical evaluation. These data points include samples obtained on April 16, 2002 (1.07

mg/L) and April 23, 2003 (0.895 mg/L). As described in the *Assessment Report* and the *2003 First Semi-annual Groundwater Monitoring Report*, it is apparent that these samples were adversely influenced by the presence of high turbidity in the samples.

2.5.2 Input Parameters

Statistical analyses were performed for those constituents that were detected at or above the practical quantitation limit in samples obtained during the October 2005 sampling event. As shown in Table 3, these constituents include: 1,1,1-TCA, 1,1,2-TCA, 1,1-DCE, 1,1-dichloroethane (DCA), t-1,2-DCE, benzene, ethylbenzene, toluene, PCE, TCE, vinyl chloride, 1,2,4-trichlorobenzene, xylenes and total chromium.

A statistical evaluation of groundwater quality data for 1,1-DCE, t-1,2-DCE, TCE, vinyl chloride, and total chromium was performed using the parametric Prediction Intervals statistical method described in the EPA guidance (April 1989). A parametric analysis such as Prediction Intervals is recommended by the EPA guidance when comparing the compliance data to background, the background data set contains 50 percent or less of nondetects, and the data are normally distributed. Testing for normal distribution was conducted using the Shapiro-Wilk Test of Normality method [EPA guidance (July 1992)].

1,1-DCA and 1,2,4-trichlorobenzene were statistically evaluated using a non-parametric analysis of variance (Kruskal-Wallis test). A non-parametric statistical method such as the Kruskal-Wallis test is recommended by the EPA guidance (April 1989) when comparing to background and the percent of nondetects in the data set for a constituent is greater than 15 percent or the data are not normally distributed. Thus, the Kruskal-Wallis test was performed at a 95 percent confidence level.

The background (MW-23) data sets for xylenes, PCE, benzene, ethylbenzene, toluene, 1,1,1-TCA, and 1,1,2-TCA consist of all nondetects, therefore, in accordance with the

permit, the upper background concentration defaults to the method detection limit (MDL). Due to varying detection limits in the background data sets, the average MDL was used for comparison purposes (Appendix C).

2.5.3 Results

Statistical results indicate that no statistically significant exceedance above background (MW-23) exists for 1,1-DCE, 1,1-DCA, t-1,2-DCE, trichloroethene, 1,2,4-trichlorobenzene, 1,1,2-TCA, benzene, ethylbenzene, and chloroethane. The result of the Prediction Intervals test for vinyl chloride indicates that the concentration detected in well MW/RT-2 (0.62 mg/L) and MW/RT-4 (0.46 mg/L) statistically exceeds background. In addition, Prediction Intervals results indicate that the total chromium concentration detected in well MW/RT-2 statistically exceeds background.

Direct comparison of compliance data to background data indicates PCE, xylenes, toluene and 1,1,1-TCA concentrations in well MW/RT-2 exceed background. As shown in Table 3, xylenes and 1,1,1-TCA concentrations were detected well below their respective Mississippi Tier 1 TRGs. In addition, PCE, xylenes, and 1,1,1-TCA were evaluated using statistical methods recommended by EPA guidances (1989, 1992). The results indicated that PCE, xylenes, and 1,1,1-TCA compliance data were not statistically significant above background. The statistical evaluation of the groundwater sampling results and summary data table are included in Appendix C.

3.0 CHROME PLATING AREA

In accordance with the post-closure care monitoring described in the *Assessment Report*, groundwater samples were obtained from well MW-24 located southeast of Chrome Plating Area (SWMU 27) and well MW-23 located downgradient of SWMU 27. The groundwater samples were analyzed for chromium and hexavalent chromium (total and dissolved), and pH.

Total and dissolved chromium and hexavalent chromium analytical results for the groundwater samples obtained from well MW-24 indicate non-detectable concentrations. Analytical results for samples obtained from well MW-23 indicate non-detect concentrations for dissolved and total hexavalent chromium and for dissolved chromium. Total chromium was detected slightly above the detection limit at a concentration of 0.07 mg/L in well MW-23. The laboratory reports are included in Appendix B.

4.0 IDW DISPOSAL

The purge water from the wells was containerized in two 55-gallon drums. The drums were properly sealed and the lids tightened. The drums were labeled with the date and the contents of the drum. Giant Resource and Recovery located in Atalla, Alabama, a licensed Treatment, Storage, and Disposal Facility, will be used to dispose of the drummed purge water. The waste profile completed by Grenada Manufacturing in December of 2002 for the purge water from wells MW-23 and MW-24 will be used for the disposal of the purge water.

5.0 REFERENCES

Global Environmental Solutions, Inc. 2003. *Revised Assessment Report and Closure Plan for the Chrome Plating Line Area*. Prepared for Grenada Manufacturing, LLC by GESI in January 2003.

Brown and Caldwell. 2003. Memorandum – Review of Groundwater Flow Parameters, Arvin Meritor, Grenada, Mississippi, dated February 5, 2003.

TABLES

TABLE 1
SAMPLE ANALYTES AND METHODS
Grenada Manufacturing, LLC
Grenada, Mississippi

Parameter	Analytical Method	Wells				
		MW/RT-2	MW/RT-4	MW/RT-5	MW-23	MW-24
Volatile Organic Compounds						
1,1,1-Trichloroethane	8260	X	X	X	X	
1,1,2-Trichloroethane	8260	X	X	X	X	
1,1-Dichloroethane	8260	X	X	X	X	
1,1-Dichloroethene	8260	X	X	X	X	
1,2-Dichloropropane	8260	X	X	X	X	
Acetone	8260	X	X	X	X	
Benzene	8260	X	X	X	X	
Carbon Disulfide	8260	X	X	X	X	
Chloroethane	8260	X	X	X	X	
Ethylbenzene	8260	X	X	X	X	
Methylene Chloride	8260	X	X	X	X	
Tetrachloroethene	8260	X	X	X	X	
Toluene	8260	X	X	X	X	
trans-1,2-Dichloroethene	8260	X	X	X	X	
Trichloroethene	8260	X	X	X	X	
Vinyl Chloride	8260	X	X	X	X	
Xylenes (total)	8260	X	X	X	X	
Metals						
Arsenic	7060A	X	X	X	X	
Chromium (total)	6010B	X	X	X	X	X
Hexavalent Chromium	7196/7199				X	X
Lead	7421	X	X	X	X	
Selenium	7740	X	X	X	X	
Semi-Volatile Organic Compounds						
1,2,4,5-Tetrachlorobenzene	8270	X	X	X	X	
1,2,4-Trichlorobenzene	8270	X	X	X	X	
2-Methylnaphthalene	8270	X	X	X	X	
Bis(2-ethylhexyl)phthalate	8270	X	X	X	X	
Naphthalene	8270	X	X	X	X	
Pentachlorophenol	8270	X	X	X	X	
pH	9045C/field				X	X

TABLE 2
GROUNDWATER ELEVATIONS FOR
OCTOBER 24, 2005 SAMPLING EVENT
Grenada Manufacturing, LLC
Grenada, Mississippi

Location	TOC Elevation (ft. MSL)¹	Water Depth (feet)²	Groundwater Elevation (ft. MSL)
MW/RT-2	184.56	12.89	171.67
MW/RT-4	184.33	12.80	171.53
MW/RT-5	184.17	12.64	171.53
MW-23	181.61	9.55	172.06
MW-24	---	13.23	---

¹ TOC - top of well casing.

² Measured from TOC

--- Measurement not available

MSL - mean sea level

TOC elevations were obtained from previous reports.

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR
SAMPLES OBTAINED OCTOBER 2005
Grenada Manufacturing, LLC
Grenada, Mississippi

PARAMETER	Tier 1 TRG (mg/L)	CONCENTRATION (mg/L)			
		MW-23	MW/RT-2	MW/RT-4	MW/RT-5
VOLATILES (EPA 8260)					
Acetone	0.608	<0.100	<0.100	<0.100	<0.100
Benzene	0.005	<0.002	0.007	<0.002	<0.002
Carbon Disulfide	1.04	<0.010	<0.010	<0.010	<0.010
Chloroethane	0.00364	<0.002	0.003	<0.002	<0.002
1,1-Dichloroethane	0.798	0.004	0.037	0.007	0.019
1,1-Dichloroethene	0.007	0.010	0.05	0.013	0.026
t-1,2-Dichloroethene	0.1	0.008	0.065	0.06	0.022
1,2-Dichloropropane	0.005	<0.002	<0.002	<0.002	<0.002
Ethylbenzene	0.7	<0.002	0.014	<0.002	<0.002
Methylene Chloride	0.005	<0.005	<0.005	<0.005	<0.005
Tetrachloroethene	0.005	<0.002	0.073*	<0.002	0.010
Toluene	1.0	<0.002	1.3*	0.006	<0.002
1,1,1-Trichloroethane	0.2	<0.002	0.029*	<0.002	0.004
1,1,2-Trichloroethane	0.005	<0.002	0.009	<0.002	0.004
Trichloroethene	0.005	16	22	0.77	6.1
Vinyl Chloride	0.002	0.080	0.62*	0.46*	0.18
Xylenes (total)	12.2	<0.005	0.12*	<0.005	<0.005
SEMI-VOLATILES (EPA 8270)					
Pentachlorophenol	0.001	<0.020	<0.020	<0.020	<0.020
Bis(2-ethylhexyl)phthalate	0.006	<0.010	<0.010	<0.010	<0.010
2-Methylnaphthalene	0.122	<0.010	<0.010	<0.010	<0.010
Naphthalene	0.0062	<0.010	<0.010	<0.010	<0.010
1,2,4-Trichlorobenzene	0.070	<0.010	0.048	<0.010	<0.010
1,2,4,5-Tetrachlorobenzene	0.011	<0.010	<0.010	<0.010	<0.010
TOTAL METALS (EPA 6000/7000 SERIES)					
Arsenic	0.050	<0.010	<0.010	<0.010	<0.010
Chromium	0.10	0.07	63*	<0.010	<0.010
Lead	0.015	<0.005	<0.005	<0.005	<0.005
Selenium	0.050	<0.010	<0.010	<0.010	<0.010

Notes:

* Denotes statistical exceedance above background.

TRG - Target Remediation Goal

mg/L - milligrams/liter

J - estimated concentration

TABLE 4
DUPLICATE SAMPLE COMPARISON
Grenada Manufaucturing, LLC
Grenada, Mississippi

Parameter	MW/RT-2	MW/RT-2 (Dup-1)	RPD (percent)
Volatile Organic Compounds			
Acetone	<0.100	<0.100	--
Benzene	0.007	0.007	0%
Carbon Disulfide	<0.010	<0.010	--
Chloroethane	0.003	0.003	0%
1,1-Dichloroethane	0.037	0.036	3%
1,1-Dichloroethene	0.05	0.05	0%
t-1,2-Dichloroethene	0.065	0.049	28%
1,2-Dichloropropane	<0.002	<0.002	--
Ethylbenzene	0.014	0.013	7%
Methylene Chloride	<0.005	<0.005	--
Tetrachloroethene	0.073	0.072	1%
Toluene	1.3	1.3	0%
1,1,1-Trichloroethane	0.029	0.03	3%
1,1,2-Trichloroethane	0.009	0.009	0%
Trichloroethene	22	23	4%
Vinyl Chloride	0.62	0.62	0%
Xylenes (total)	0.12	0.11	9%
Semi-volatile Organic Compounds			
Pentachlorophenol	<0.020	<0.020	
Bis(2-ethylhexyl)phthalate	<0.010	<0.010	--
2-Methylnaphthalene	<0.010	<0.010	--
Naphthalene	<0.010	<0.010	--
1,2,4-Trichlorobenzene	0.048	0.046	4%
1,2,4,5-Tetrachlorobenzene	<0.010	<0.010	
Total Metals			
Arsenic	<0.010	<0.010	--
Chromium	63	63	0%
Lead	<0.005	<0.005	--
Selenium	<0.010	<0.010	--

Note:

Concentrations in milligrams per liter (mg/L).

RPD - relative percent difference= $[\text{abs}(\text{D1}-\text{D2})/((\text{D1}+\text{D2})/2)]$

< - not detected at specified detection limit

-- - RPD was not calculated for those sample pairs where one or both analytes were undetected.

TABLE 5
SWMU 27 - CHROME PLATING LINE AREA GROUNDWATER DATA
MW-23 AND MW-24
Grenada Manufafturing, LLC
Grenada, Mississippi

Parameter	Sample Date	MW-23	MW-24
pH (field)	24-Oct-05	4.68	5.23
Cr ⁺⁶ (total)	24-Oct-05	0.01UJ	0.01UJ
Cr ⁺⁶ (dissolved)	24-Oct-05	0.01U	0.01U
Total Cr (total)	24-Oct-05	0.07	0.01U
Total Cr (dissolved)	24-Oct-05	0.01U	0.01U

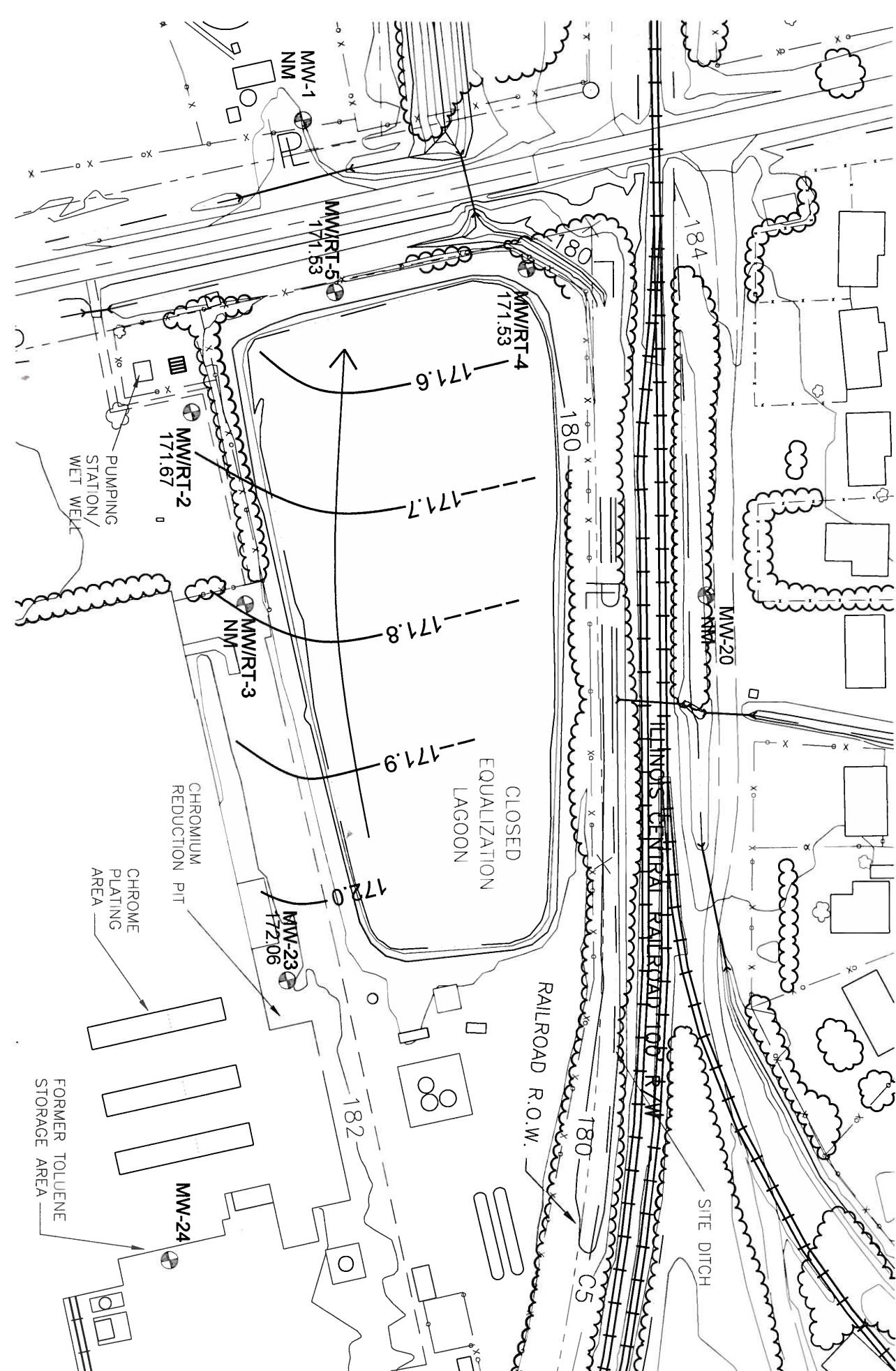
Notes:

Chromium concentrations in mg/L

J = Estimated concentration

U = Not Detected

FIGURE



LEGEND

- = MONITORING WELL
- = POTENTIOMETRIC CONTOUR LINE
- ← = DIRECTION OF GROUNDWATER FLOW
- NM = NOT MEASURED

0
25
50
100
150
APPROXIMATE GRAPHIC SCALE IN FEET



GESI
global environmental solutions, inc.
2121 newmarket pkwy
suite 140
memphis, tn 38067
tel 770 690 9552
fax 770 690 9559

GRENADA MANUFACTURING, LLC
GRENADA, MISSISSIPPI

POTENTIOMETRIC SURFACE MAP
OCTOBER 24, 2005

GESI PROJECT NO. 98537.01A

FIGURE 1

APPENDIX A

Well Sampling Forms

P R E M O

INC

Date: 10/24/2005
Page: _____

Low Flow Monitoring Well Sampling Form

Location:	Grenada, MS	Sampler(s):	J. Tidwell, G. Swearingin	Project Name:	GESI - Grenada Manufacturing, LLC
				Project No.:	300021.00

SITE CONDITIONS/COMMENTS ON SAMPLING:

Well #	MW-23	Diam. In.	TOC Elev. (ft. MSL)	Total Depth (ft)	Date	Time
Depth to Water (ft)	Cum. Vol. (gal)	Temp. (°C)	Sp. Cond. (S/m)	pH (std. units)	Turbidity (NTU)	DO (mg/L)
9.55	initial	22.59	0.548	3.98	265	3.97
9.68	5	22.94	0.422	4.56	0	0.26
9.68	10	22.93	0.403	4.53	0	0.2
9.68	15	22.88	0.400	4.52	0	0.19
9.68	20	22.91	0.395	4.53	0	0.19
9.68	25	22.88	0.397	4.58	0	0.18
9.68	30	22.92	0.389	4.60	0	0.15
9.68	35	22.88	0.393	4.62	0	0.19
9.68	40	22.93	0.392	4.64	6.0	0.18
9.68	45	22.88	0.393	4.66	9.9	0.18
9.68	50	22.88	0.388	4.66	13.2	0.18
Start Low-Flow Sampling						
9.53	Initial	22.69	0.469	4.74	280	0.80
9.55	1 qt	22.69	0.431	4.66	223	0.41

EQUIPMENT USED/COMMENTS:

Calibrate Horiba prior to purging

DATE

SIGNATURE

PREMO INC.

Date: 10/24/2005
Page:

Low Flow Monitoring Well Sampling Form

Location:	Grenada, MS	Sampler(s):	J. Tidwell, G. Swearingin	Project Name:	GESI - Grenada Manufacturing, LLC				
				Project No.:	3000021.00				
SITE CONDITIONS/COMMENTS ON SAMPLING:				AMBIENT TEMPERATURE:	WIND:				
Well #	MW-23	Diam. In.	TOC Elev. (ft, MSL)	Total Depth (ft)	Date				
Depth to Water (ft)	Cum. Vol. (gal)	Temp. (°C)	Sp. Cond. (S/m)	pH (std. units)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Time	COMMENTS
9.55	2 qt	22.92	0.434	4.65	222	0.36	138	14:29	
9.55	3 qt	22.88	0.418	4.64	205	0.32	139	14:31	
9.55	4 qt	22.74	0.407	4.66	155	0.39	138	14:33	
9.55	5 qt	22.69	0.394	4.68	142	0.50	135	14:35	
EQUIPMENT USED/COMMENTS: Sample at 14:40									
SIGNATURE _____ DATE _____									

P R E M O
INC.

Date: 10/24/2005
Page: _____

Low Flow Monitoring Well Sampling Form

P R E M O INC.

Date: 10/24/2005
Page:

Low Flow Monitoring Well Sampling Form

Location:	<u>Grenada, MS</u>	Sampler(s):	<u>J. Tidwell, G. Swearingin</u>	Project Name:	<u>GESI - Grenada Manufacturing, LLC</u>
				Project No.:	<u>300021.00</u>

SITE CONDITIONS/COMMENTS ON SAMPLING:

Depth to Water (ft)	Cum. Vol. (qt)	Temp. (°C)	Sp. Cond. (S/m)	pH (std. units)	Turbidity (NTU)	DO (mg/L)	ORP (mV)	Time	Comments
12.80	initial	19.69	0.609	50.3	335	7.19	76	9:30	
16.71	1	20.39	0.590	5.16	172	7.52	59	9:35	
19.89	2	20.47	0.559	5.08	98.1	2.27	65	9:38	Water clear, no odor
20.95	3	20.63	0.566	5.08	87.1	1.46	67	9:41	
21.21	4	20.65	0.552	5.08	73.2	1.38	68	9:44	

Well dry at 9:47

Well dry at 9:47

SIGNATURE

DATE

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Calibrated Horiba prior to purging

Horiba U-22 - ID #5826 Solist Water Level Meter Model 101 - ID #33804
Gauge 2 ID#45554

Well # MW/RT-5 Diam. In. TOC Elev. Total Depth (ft) Date Time

P R E M O INC

Date: 10/24/2005
Page:

Low Flow Monitoring Well Sampling Form

P R E M O INC

Date: 10/24/2005
Page: _____

Low Flow Monitoring Well Sampling Form

APPENDIX B

Analytical and QA/QC Results

Attention: Mr. James Beauchamp
Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Report No. 219493

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Report Number 219493

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Total Number of Pages in Report	37	

Analytical Services, Inc. certifies that the following analytical results meet all the requirements of the National Environmental Laboratory Accreditation Conference (NELAC).

ASI

ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Report Number **219493**

Project: Grenada Manufacturing/ Grenada Mississippi

Prepared For:
Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp

November 7, 2005

We appreciate the opportunity to provide the analytical support for your project. The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.



Rudy Lubinski
Project Manager



Mary F. Gandy
Quality Assurance

cc: Ms. Sherri Harvey, Premier - Marietta

NAME Global Environmental Solutions Inc.
ADDRESS_1 2121 Newmarket Parkway
ADDRESS_2
CITYSTATE Marietta, GA 30067
ATTN Attention: Mr. James Beauchamp
PO_NO
DLDATE November 7, 2005
REPORTNUM 219493
NUMOFSAMPL 10
PROJECT Project: Grenada Manufacturing/ Grenada Mississippi
NELAP Y
QC Y
REPORTFORM

CC'S
CC1 LINE 1 Ms. Sherri Harvey, Premier - Marietta
CC1 LINE 2
CC2 LINE 1
CC2 LINE 2
CC3 LINE 1
CC3 LINE 2
CC4 LINE 1
CC2 LINE 2



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

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Legend

Definitions of Laboratory Terms

BDL - Below Detection Limit

ND - None Detected

TIC - Tentatively Identified Compound

CFU - Colony Forming Units

SOP - Method run per ASI Standard Operating Procedure

Definitions of QC Terms

BLK - Blank

DL - Dilutions

RR - Reanalyzed

RE - Re-extracted or Re-Digested and Reanalyzed

Definitions of Qualifiers

B - Found in Laboratory Blank

J - Estimated value; value may not be accurate

The J Qualifier may be used alone or along with the following identifiers:

1. Surrogate recovery failed to meet established criteria
2. Sample result above the MDL but below the reporting limit
3. The reported value failed to meet the established quality control criteria for either precision or accuracy

M - Estimated value: A matrix effect was determined to be present in the sample

H - Estimated value: Sample out of hold

U - Not Detected at the Level Reported

* - Sample not preserved within method requirements

NOTE: Unless otherwise noted, all results are reported on an as received basis.

Analytical Services Inc., Norcross Laboratory maintains the following certifications, approvals, and accreditations: Georgia (812); NELAC (E87315) scope: CWA, SDWA, RCRA expires June 30, 2006; Arkansas; California (01160CA); Connecticut (PH-0250); Florida (E87315); Kansas (E-10334); Kentucky (90126); Louisiana (02069); New Jersey (GA001); New York (11762); North Carolina (381); Oklahoma (9907); South Carolina (98011); Tennessee (02994); USDA Soil Import License (S-36027). For more information visit our web site at: asi-lab.com



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

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Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-1

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5, 10/24/2005, 10:18, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	BDL	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	BDL	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	19	2	ug/L
EPA 8260B	1,1-Dichloroethene	26	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	22	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	10	2	ug/L
EPA 8260B	Toluene	BDL	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	4	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	4	2	ug/L
EPA 8260B	Trichloroethene	6100	500	ug/L
EPA 8260B	Vinyl chloride	180	50	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L

Sample Description
Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5, 10/24/2005, 10:18, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Base/Neutral Extractable Organics				
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	BDL	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-2

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5MS, 10/24/2005, 10:18, received
10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	1.2	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	1.1	0.01	mg/L
EPA 6010B	Total Lead (Pb)	1.1	0.005	mg/L
EPA 6010B	Total Selenium (Se)	1.0	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	48	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	15	2	ug/L
EPA 8260B	1,1-Dichloroethene	69	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	19	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	8	2	ug/L
EPA 8260B	Toluene	47	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	3	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	4	2	ug/L
EPA 8260B	Trichloroethene	6100	500	ug/L
EPA 8260B	Vinyl chloride	160J	2	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				

BDL - Below Detection Limit

Page 1 of 2

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5MS, 10/24/2005, 10:18, received
10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8270C	Pentachlorophenol	98	20	ug/L
Base/Neutral Extractable Organics				
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	45	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092
(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-3

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5MSD, 10/24/2005, 10:18, received
10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	1.1	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	1.1	0.01	mg/L
EPA 6010B	Total Lead (Pb)	1.1	0.005	mg/L
EPA 6010B	Total Selenium (Se)	1.0	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	56	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	16	2	ug/L
EPA 8260B	1,1-Dichloroethene	75	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	20	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	8	2	ug/L
EPA 8260B	Toluene	53	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	3	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	4	2	ug/L
EPA 8260B	Trichloroethene	6100	500	ug/L
EPA 8260B	Vinyl chloride	160J	2	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-5MSD, 10/24/2005, 10:18, received
10/25/2005**Analytical****Method****Analyte****Result****Detection Limit****Units**

EPA 8270C Pentachlorophenol 95 20 ug/L

Base/Neutral Extractable Organics

EPA 8270C Bis(2-ethylhexyl)phthalate BDL 10 ug/L

EPA 8270C 2-Methylnaphthalene BDL 10 ug/L

EPA 8270C Naphthalene BDL 10 ug/L

EPA 8270C 1,2,4-Trichlorobenzene 47 10 ug/L

EPA 8270C 1,2,4,5-Tetrachlorobenzene BDL 10 ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

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Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-4

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-2, 10/24/2005, 10:56, received 10/25/2005

Analytical

Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	63	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	7	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	3	2	ug/L
EPA 8260B	1,1-Dichloroethane	37	2	ug/L
EPA 8260B	1,1-Dichloroethene	50	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	65	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	14	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	73	2	ug/L
EPA 8260B	Toluene	1300	20	ug/L
EPA 8260B	1,1,1-Trichloroethane	29	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	9	2	ug/L
EPA 8260B	Trichloroethene	22000	500	ug/L
EPA 8260B	Vinyl chloride	620	200	ug/L
EPA 8260B	Xylenes (total)	120	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L

BDL - Below Detection Limit

Page 1 of 2

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-2, 10/24/2005, 10:56, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Base/Neutral Extractable Organics				
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	48	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-5

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW-23, 10/24/2005, 14:40, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
General Chemistry				
SM 3500-Cr D	Hexavalent Chromium (Cr^{+6})	BDL	0.01	mg/L
SM 3500-Cr D	Dissolved Hexavalent Chromium (Cr^{+6})	BDL	0.01	mg/L
EPA 9040	pH (laboratory)	6.12 H	-	
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	0.07	0.01	mg/L
EPA 6010B	Dissolved Chromium (Cr)	BDL	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	BDL	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	4	2	ug/L
EPA 8260B	1,1-Dichloroethene	10	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	8	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	BDL	2	ug/L
EPA 8260B	Toluene	BDL	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	BDL	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	BDL	2	ug/L
EPA 8260B	Trichloroethene	16000	500	ug/L

BDL - Below Detection Limit

Page 1 of 2

Sample Description
Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW-23, 10/24/2005, 14:40, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8260B	Vinyl chloride	80	2	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L
Base/Neutral Extractable Organics				
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	BDL	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-6

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW-24, 10/24/2005, 15:25, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
General Chemistry				
SM 3500-Cr D	Hexavalent Chromium (Cr ⁺⁶)	BDL M	0.01	mg/L
SM 3500-Cr D	Dissolved Hexavalent Chromium (Cr ⁺⁶)	BDL	0.01	mg/L
EPA 9040	pH (laboratory)	6.57 H	-	
Metals				
EPA 6010B	Total Chromium (Cr)	BDL	0.01	mg/L
EPA 6010B	Dissolved Chromium (Cr)	BDL	0.01	mg/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-7

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-4, 10/24/2005, 16:03, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	BDL	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	BDL	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	7	2	ug/L
EPA 8260B	1,1-Dichloroethene	13	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	60	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	BDL	2	ug/L
EPA 8260B	Toluene	6	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	BDL	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	BDL	2	ug/L
EPA 8260B	Trichloroethene	770	20	ug/L
EPA 8260B	Vinyl chloride	460	20	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L
Base/Neutral Extractable Organics				

Sample Description
Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, MW/RT-4, 10/24/2005, 16:03, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	BDL	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-8

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Water, Grab, Grenada Manufacturing/ Grenada Mississippi, Field Blank, 10/24/2005, 16:00, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	BDL	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	BDL	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethene	BDL	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	BDL	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	BDL	2	ug/L
EPA 8260B	Toluene	BDL	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	BDL	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	BDL	2	ug/L
EPA 8260B	Trichloroethene	BDL	2	ug/L
EPA 8260B	Vinyl chloride	BDL	2	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L
Base/Neutral Extractable Organics				

Sample Description
Global Environmental Solutions Inc.

Water, Grab, Grenada Manufacturing/ Grenada Mississippi, Field Blank, 10/24/2005, 16:00, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	BDL	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-9

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, Dup-1, 10/24/2005, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Metals				
EPA 6010B	Total Arsenic (As)	BDL	0.01	mg/L
EPA 6010B	Total Chromium (Cr)	63	0.01	mg/L
EPA 6010B	Total Lead (Pb)	BDL	0.005	mg/L
EPA 6010B	Total Selenium (Se)	BDL	0.01	mg/L
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	7	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	3	2	ug/L
EPA 8260B	1,1-Dichloroethane	36	2	ug/L
EPA 8260B	1,1-Dichloroethene	50	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	49	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	13	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	72	2	ug/L
EPA 8260B	Toluene	1300	100	ug/L
EPA 8260B	1,1,1-Trichloroethane	30	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	9	2	ug/L
EPA 8260B	Trichloroethene	23000	500	ug/L
EPA 8260B	Vinyl chloride	620	100	ug/L
EPA 8260B	Xylenes (total)	110	5	ug/L
Acid Extractable Organics				
EPA 8270C	Pentachlorophenol	BDL	20	ug/L
Base/Neutral Extractable Organics				

Sample Description

Global Environmental Solutions Inc.

Groundwater, Grab, Grenada Manufacturing/ Grenada Mississippi, Dup-1, 10/24/2005, received 10/25/2005

Analytical**Method****Analyte****Result****Detection Limit****Units**

EPA 8270C	Bis(2-ethylhexyl)phthalate	BDL	10	ug/L
EPA 8270C	2-Methylnaphthalene	BDL	10	ug/L
EPA 8270C	Naphthalene	BDL	10	ug/L
EPA 8270C	1,2,4-Trichlorobenzene	46	10	ug/L
EPA 8270C	1,2,4,5-Tetrachlorobenzene	BDL	10	ug/L



ANALYTICAL SERVICES, INC.

Environmental Monitoring & Laboratory Analysis

110 Technology Parkway Norcross, GA 30092

(770) 734-4200 FAX (770) 734-4201

Laboratory Report

Global Environmental Solutions Inc.
2121 Newmarket Parkway
Marietta, GA 30067

Attention: Mr. James Beauchamp
Report No. 219493-10

November 7, 2005

Sample Description

Global Environmental Solutions Inc.

Water, Grab, Grenada Manufacturing/ Grenada Mississippi, Trip Blank, 10/24/2005, received 10/25/2005

Analytical Method	Analyte	Result	Detection Limit	Units
Volatile Organics				
EPA 8260B	Acetone	BDL	100	ug/L
EPA 8260B	Benzene	BDL	2	ug/L
EPA 8260B	Carbon disulfide	BDL	10	ug/L
EPA 8260B	Chloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethane	BDL	2	ug/L
EPA 8260B	1,1-Dichloroethene	BDL	2	ug/L
EPA 8260B	trans-1,2-Dichloroethene	BDL	2	ug/L
EPA 8260B	1,2-Dichloropropane	BDL	2	ug/L
EPA 8260B	Ethylbenzene	BDL	2	ug/L
EPA 8260B	Methylene chloride	BDL	5	ug/L
EPA 8260B	Tetrachloroethene	BDL	2	ug/L
EPA 8260B	Toluene	BDL	2	ug/L
EPA 8260B	1,1,1-Trichloroethane	BDL	2	ug/L
EPA 8260B	1,1,2-Trichloroethane	BDL	2	ug/L
EPA 8260B	Trichloroethene	BDL	2	ug/L
EPA 8260B	Vinyl chloride	BDL	2	ug/L
EPA 8260B	Xylenes (total)	BDL	5	ug/L

Base Neutrals / Acids by Method EPA 8270C
Spike Recovery

Batch # 122357**Matrix : AQUEOUS**

Lab Control Information Analyte	LC %Rec	%Recovery Range		
Pyrene	102	62 - 138		
Pentachlorophenol	98	39 - 117		
4-Nitrophenol	30	10 - 48		
2,4-Dinitrotoluene	78	33 - 117		
Acenaphthene	87	54 - 119		
4-Chloro-3-methylphenol	98	51 - 115		
1,2,4-Trichlorobenzene	79	45 - 99		
N-Nitrosodipropylamine	83	46 - 111		
1,4-Dichlorobenzene	75	42 - 95		
2-Chlorophenol	84	47 - 97		
Phenol	35	15 - 48		
Matrix Spike Information Analyte	MS %Rec	MSD %Rec	MS/MSD RPD	%Recovery Range
Pyrene	98	101	3	64 - 140
Pentachlorophenol	98	94	5	43 - 133
4-Nitrophenol	32	31	4	10 - 87
2,4-Dinitrotoluene	76	74	3	37 - 120
Acenaphthene	81	82	1	52 - 123
4-Chloro-3-methylphenol	94	95	1	55 - 119
1,2,4-Trichlorobenzene	90	93	2	43 - 102
N-Nitrosodipropylamine	75	76	1	47 - 110
1,4-Dichlorobenzene	70	71	1	44 - 93
2-Chlorophenol	78	78	0	49 - 99
Phenol	32	32	1	13 - 76

Base Neutrals / Acids by Method EPA 8270C
Surrogate Recovery

Batch # 122357**Matrix : AQUEOUS**

	Surrogate #	% Recovery Objectives					
		Surrogate Name		Surrogate Range			
	S5	2,4,6-Tribromophenol		24 - 131			
	S6	Terphenyl-d14		21 - 150			
	S4	2-Fluorobiphenyl		37 - 122			
	S3	Nitrobenzene-d5		18 - 117			
	S2	Phenol-d5		10 - 61			
	S1	2-Fluorophenol		12 - 75			
Sample	File	S1	S2	S3	S4	S5	S6
SBLK122357	A4720	42	27	74	81	75	98
LCS-122357	A4721	45	30	83	93	88	108
219493-2MS	A4722	42	28	76	86	87	100
219493-3MSD	A4723	42	27	78	89	83	103
219493-1	A4724	39	27	73	83	79	90
219493-4	A4725	42	27	76	91	83	101
219493-5	A4726	43	28	75	91	81	97
219493-7	A4727	45	29	80	95	94	105
219493-8	A4728	47	30	85	97	89	110
219493-9	A4729	43	28	78	93	90	93
BLK-10-26-05	A4730	0	0	81	96	0	115
Note: PAH Only							
QCS-122357	A4731	0	0	96	89	0	113
Note: PAH Only							
219501-3	A4732	0	0	67	76	0	40
Note: PAH Only							
219563-7	A4733	39	27	66	81	80	90

Base Neutrals / Acids by Method EPA 8270C
Blank Results Information**Batch # 122357****Matrix : AQUEOUS**

Analyte	Blank	Lowest Sample	
	Hits	Det. Limit	Units
Pentachlorophenol	None	20	ug/L
Bis(2-ethylhexyl)phthalate	None	10	ug/L
2-Methylnaphthalene	None	10	ug/L
Naphthalene	None	10	ug/L
1,2,4-Trichlorobenzene	None	10	ug/L
1,2,4,5-Tetrachlorobenzene	None	10	ug/L

Base Neutrals / Acids by Method EPA 8270C
Sample Batch Information

Batch # 122357**Matrix : AQUEOUS**

Sample ID	Preparation				Analysis			
	Date	Time	By	Notes	Date	Time	By	Inst #
SBLK122357	10/25/05	1830	MO		10/26/05	1522	RAC	BNA3
LCS-122357	10/25/05	1830	MO		10/26/05	1543	RAC	BNA3
219493-2MS	10/25/05	1830	MO		10/26/05	1605	RAC	BNA3
219493-3MSD	10/25/05	1830	MO		10/26/05	1627	RAC	BNA3
219493-1	10/25/05	1830	MO		10/26/05	1648	RAC	BNA3
219493-4	10/25/05	1830	MO		10/26/05	1710	RAC	BNA3
219493-5	10/25/05	1830	MO		10/26/05	1732	RAC	BNA3
219493-7	10/25/05	1830	MO		10/26/05	1753	RAC	BNA3
219493-8	10/25/05	1830	MO		10/26/05	1815	RAC	BNA3
219493-9	10/25/05	1830	MO		10/26/05	1836	RAC	BNA3
BLK-10-26-05	10/26/05	1030	MO	PAH Only	10/26/05	1858	RAC	BNA3
QCS-122357	10/26/05	1030	MO	PAH Only	10/26/05	1919	RAC	BNA3
219501-3	10/26/05	1030	DJ	PAH Only	10/26/05	1941	RAC	BNA3
219563-7	10/26/05	1430	DJ		10/26/05	2002	RAC	BNA3

Volatile Organics by Method EPA 8260B
Spike Recovery**Batch # 122372****Matrix : AQUEOUS**

Lab Control Information Analyte	LC %Rec	%Recovery Range			
Chlorobenzene	96	75 - 120			
Toluene	105	72 - 125			
Trichloroethene	100	75 - 118			
Benzene	107	77 - 121			
1,1-Dichloroethene	103	59 - 121			

Matrix Spike Information Analyte	MS %Rec	MSD %Rec	MS/MSD RPD	%Recovery Range	RPD Range
Chlorobenzene	96	96	1	73 - 126	0 - 16
Toluene	90	90	0	71 - 130	0 - 21
Trichloroethene	84	87	2	71 - 126	0 - 18
Benzene	90	91	1	76 - 127	0 - 14
1,1-Dichloroethene	95	95	0	57 - 129	0 - 16

Volatile Organics by Method EPA 8260B
Surrogate Recovery

Batch # 122372**Matrix : AQUEOUS**

% Recovery Objectives							
	Surrogate #	Surrogate Name			Surrogate Range		
Sample	File	S1	S2	S3	S4	S5	S6
LCS-122372	D8210	88	102	86	101		
VBLK1-10-26-05	D8211	95	105	86	105		
VBLK2-10-26-05	D8212	92	104	85	101		
219493-1	D8214	91	101	85	99		
219493-2MS	D8216	88	92	84	98		
Note: AKA-1MS							
219493-3MSD	D8218	87	88	84	98		
Note: AKA-1MSD							
219493-4	D8220	89	86	85	96		
219493-5	D8222	85	86	84	99		
219493-7	D8224	89	86	84	94		
219493-8	D8226	87	88	83	98		
219493-9	D8228	88	88	86	98		
219493-10	D8230	88	90	83	97		
219493-7DL	C20218	85	99	94	97		
Note: 1:10							
219493-8RR	C20220	87	101	95	98		
Note: REPORT							
VBLK3-10-26-05	C20225	87	102	100	100		
VBLK4-10-26-05	C20226	85	99	94	99		
219493-10RR	C20227	88	103	99	100		
Note: REPORT							
219493-1DL	D8243	95	102	86	105		
Note: 1:250							
219493-5DL	D8244	92	101	83	102		
Note: 1:10							

Volatile Organics by Method EPA 8260B
Surrogate Recovery

Batch # 122372**Matrix : AQUEOUS**

Sample	File	% Recovery Objectives					
		Surrogate #		Surrogate Name			Surrogate Range
		S4	4-Bromofluorobenzene				71 - 124
219493-9DL Note: 1:50	C20233	87	103	99	100		
219493-7DL1 Note: 1:50	C20234	86	99	95	98		
VBLK2-10-27-05	C20247	83	98	95	98		
219493-5DL1 Note: 1:250	C20259	86	101	95	98		
219493-4DL Note: 1:100	C20261	87	102	94	99		
219493-9DL1 Note: 1:250	C20263	86	102	94	98		
219480-10DL Note: 1:100	C20265	87	103	95	99		
219493-2DLMS Note: REPORT	C20267	87	102	95	98		
219493-3DLMSD Note: REPORT	C20271	86	102	94	98		
219493-4DL1 Note: 1:250	C20273	87	103	95	99		
219493-5RR VBLK1-10-31-05	C20277	87	103	94	98		
219493-1DL1	D8391	89	89	88	100		
	D8393	92	90	87	98		

Volatile Organics by Method EPA 8260B
Blank Results Information**Batch # 122372****Matrix : AQUEOUS**

Analyte	Blank	Lowest Sample	
	Hits	Det. Limit	Units
Acetone	None	100	ug/L
Benzene	None	2	ug/L
Carbon disulfide	None	10	ug/L
Chloroethane	None	5	ug/L
1,1-Dichloroethane	None	2	ug/L
1,1-Dichloroethene	None	2	ug/L
trans-1,2-Dichloroethene	None	2	ug/L
1,2-Dichloropropane	None	2	ug/L
Ethylbenzene	None	2	ug/L
Methylene chloride	None	5	ug/L
Tetrachloroethene	None	2	ug/L
Toluene	None	2	ug/L
1,1,1-Trichloroethane	None	2	ug/L
1,1,2-Trichloroethane	None	2	ug/L
Trichloroethene	None	2	ug/L
Vinyl chloride	None	2	ug/L
Xylenes	None	5	ug/L

Volatile Organics by Method EPA 8260B
Sample Batch Information

Batch # 122372**Matrix : AQUEOUS**

Sample ID	Preparation			Analysis			Inst #
	Date	Time	By	Date	Time	By	
LCS-122372	/ /			10/26/05	1031	DR	VOA4
VBLK1-10-26-05	/ /			10/26/05	1051	DR	VOA4
VBLK2-10-26-05	/ /			10/26/05	1110	DR	VOA4
219493-1	/ /			10/26/05	1150	DR	VOA4
219493-2MS	/ /		AKA-1MS	10/26/05	1229	DR	VOA4
219493-3MSD	/ /		AKA-1MSD	10/26/05	1308	DR	VOA4
219493-4	/ /			10/26/05	1348	DR	VOA4
219493-5	/ /			10/26/05	1427	DR	VOA4
219493-7	/ /			10/26/05	1507	DR	VOA4
219493-8	/ /			10/26/05	1546	DR	VOA4
219493-9	/ /			10/26/05	1626	DR	VOA4
219493-10	/ /			10/26/05	1705	DR	VOA4
219493-7DL	/ /		1:10	10/26/05	1706	CJJ	VOA3
^^ Dilution factor: 10							
219493-8RR	/ /		REPORT	10/26/05	1744	CJJ	VOA3
VBLK3-10-26-05	/ /			10/26/05	1917	CJJ	VOA3
VBLK4-10-26-05	/ /			10/26/05	1935	CJJ	VOA3
219493-10RR	/ /		REPORT	10/26/05	1954	CJJ	VOA3
219493-1DL	/ /		1:250	10/26/05	2121	DR	VOA4
^^ Dilution factor: 250							
219493-5DL	/ /		1:10	10/26/05	2141	DR	VOA4
^^ Dilution factor: 10							
219493-9DL	/ /		1:50	10/26/05	2145	CJJ	VOA3
^^ Dilution factor: 50							
219493-7DL1	/ /		1:50	10/26/05	2204	CJJ	VOA3
^^ Dilution factor: 50							
VBLK2-10-27-05	/ /			10/27/05	1249	CJJ	VOA3
219493-5DL1	/ /		1:250	10/27/05	1633	CJJ	VOA3
^^ Dilution factor: 250							
219493-4DL	/ /		1:100	10/27/05	1710	CJJ	VOA3
^^ Dilution factor: 100							
219493-9DL1	/ /		1:250	10/27/05	1747	CJJ	VOA3
^^ Dilution factor: 250							
219480-10DL	/ /		1:100	10/27/05	1824	CJJ	VOA3
^^ Dilution factor: 100							
219493-2DLMS	/ /		REPORT	10/27/05	1901	CJJ	VOA3
^^ Dilution factor: 250							
219493-3DLMSD	/ /		REPORT	10/27/05	2016	CJJ	VOA3
^^ Dilution factor: 250							
219493-4DL1	/ /		1:250	10/27/05	2053	CJJ	VOA3
^^ Dilution factor: 250							
219493-5RR	/ /			10/27/05	2207	CJJ	VOA3
VBLK1-10-31-05	/ /			10/31/05	1043	DR	VOA4
219493-1DL1	/ /			10/31/05	1122	DR	VOA4
^^ Dilution factor: 25							

Single Analyte Data
Blank Results Information

Batch Number	Analyte	Analysis Method	Preparation Method	Units	Blank Result	Matrix
122290	As	EPA 6010		mg/L	< 0.0100	AQUEOUS
122290	Cr	EPA 6010		mg/L	< 0.0100	AQUEOUS
122290	Pb	EPA 6010		mg/L	< 0.0050	AQUEOUS
122290	Se	EPA 6010		mg/L	< 0.0100	AQUEOUS
122362	pH	EPA 9040			0.0000	AQUEOUS
122364	Cr+6	SM 3500-Cr D		mg/L	< 0.0100	AQUEOUS

Lab Control Information

Batch Number	Analyte	Analysis Method	LC	% Recovery
			% Rec.	Range
122290	As	EPA 6010	115	83 - 119
122290	Cr	EPA 6010	113	84 - 117
122290	Pb	EPA 6010	112	86 - 119
122290	Se	EPA 6010	113	86 - 118
122362	pH	EPA 9040	99	97 - 102
122364	Cr+6	SM 3500-Cr D	95	72 - 120

Matrix Spike Information

Batch Number	Analyte	Analysis Method	MS	MSD	MS/MSD	% Recovery	RPD
			% Rec.	% Rec.	RPD	Range	Range
122290	As	EPA 6010	115	111	4	76 - 124	0 - 20
122290	Cr	EPA 6010	112	107	4	76 - 124	0 - 20
122290	Pb	EPA 6010	110	106	3	76 - 124	0 - 20
122290	Se	EPA 6010	101	96	5	76 - 124	0 - 20
122364	Cr+6	SM 3500-Cr D	26	22	18	62 - 127	0 - 13

**Single Analyte Data
Post Digestion Spike Information**

Batch Number	Analysis	PDS	%Recovery
	Analyte	Method	%Rec
122290	As	EPA 6010	114
122290	Cr	EPA 6010	110
122290	Pb	EPA 6010	109
122290	Se	EPA 6010	113

Unspiked Sample Duplicate Information

Batch Number	Analysis	Sample 1	Sample 2	RPD
	Method	RPD	RPD	Range
122290	As	EPA 6010	0	0 - 20
122290	Cr	EPA 6010	4	0 - 20
122290	Pb	EPA 6010	0	0 - 20
122290	Se	EPA 6010	0	0 - 20
122362	pH	EPA 9040	0	0 - 2
122364	Cr+6	SM 3500-Cr D	0	0 - 2

Single Analyte Data
Sample Batch Information
Analysis : As, Cr, Pb, Se

Batch # 122290**Matrix : AQUEOUS**

Sample ID	Tag	Preparation			Notes	Analysis			Inst
		Date	Time	By		Date	Time	By	
BLK122290		10/26/05	0520	M.T.	ICP	10/27/05	2136	MCJ	ICP2
LCS-122290		10/26/05	0520	M.T.	ICP	10/27/05	2140	MCJ	ICP2
219493-2MS		10/26/05	0520	M.T.	ICP	10/27/05	2145	MCJ	ICP2
219493-3MSD		10/26/05	0520	M.T.	ICP	10/27/05	2149	MCJ	ICP2
219493-1PDS		10/26/05	0520	M.T.	ICP	10/27/05	2155	MCJ	ICP2
219493-4DUP		10/26/05	0520	M.T.	ICP	10/27/05	2214	MCJ	ICP2
219501-2		10/26/05	0520	M.T.	ICP	10/27/05	2218	MCJ	ICP2
219493-1		10/26/05	0520	M.T.	ICP	10/27/05	2222	MCJ	ICP2
219493-3		10/26/05	0520	M.T.	ICP	10/27/05	2231	MCJ	ICP2
219493-4		10/26/05	0520	M.T.	ICP	10/27/05	2235	MCJ	ICP2
219493-2		10/26/05	0520	M.T.	ICP	10/27/05	2236	MCJ	ICP2
219493-5		10/26/05	0520	M.T.	ICP	10/27/05	2239	MCJ	ICP2
219493-6		10/26/05	0520	M.T.	ICP	10/27/05	2243	MCJ	ICP2
219493-7		10/26/05	0520	M.T.	ICP	10/27/05	2247	MCJ	ICP2
219493-8		10/26/05	0520	M.T.	ICP	10/27/05	2308	MCJ	ICP2
219493-9		10/26/05	0520	M.T.	ICP Oil	10/27/05	2312	MCJ	ICP2
219485-1		10/26/05	0520	M.T.	10to2.5HCL Oil	10/27/05	2316	MCJ	ICP2
219485-2		10/26/05	0520	M.T.	10to2.5HCL Oil	10/27/05	2320	MCJ	ICP2
219485-3		10/26/05	0520	M.T.	10to2.5HCL	10/27/05	2325	MAT	ICP2
219493-5		10/26/05	0520	M.T.	Dissolved	10/27/05	2329	MCJ	ICP2
219493-6		10/26/05	0520	M.T.	Dissolved	10/27/05	2333	MCJ	ICP2
219493-2MSRR		10/26/05	0520	M.T.	ICP	10/31/05	1515	FBS	ICP3
219493-3MSDRR		10/26/05	0520	M.T.	ICP	10/31/05	1521	FBS	ICP3
219493-1RR		10/26/05	0520	M.T.	ICP	10/31/05	1527	GBS	ICP3

Single Analyte Data
Sample Batch Information
Analysis : pH

Batch # 122362**Matrix : AQUEOUS**

Sample ID	Tag	Preparation			Analysis				
		Date	Time	By	Notes	Date	Time	By	Inst
CCV-122362		//				10/25/05	1735	LB	AR25
LCS-122362		//				10/25/05	1735	LB	AR25
CCV-122362		//				10/25/05	1845	LB	AR25
219474-2DUP		//				10/25/05	1845	LB	AR25
219474-2		//				10/25/05	1845	LB	AR25
219474-1		//				10/25/05	1845	LB	AR25
CCV-122362		//				10/25/05	1850	LB	AR25
219528-9		//				10/25/05	1850	LB	AR25
219487-1		//				10/25/05	1850	LB	AR25
219475-1		//				10/25/05	1850	LB	AR25
219493-6		//			OOH	10/25/05	1850	LB	AR25
219493-5		//			OOH	10/25/05	1850	LB	AR25
219517-1		//				10/25/05	1850	LB	AR25

Single Analyte Data
Sample Batch Information
Analysis : Cr+6

Batch # 122364**Matrix : AQUEOUS**

Sample ID	Tag	Preparation			Notes	Analysis			Inst
		Date	Time	By		Date	Time	By	
219439-7		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219439-2		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
CCV122364		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
CCV122364		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
BLK122364		10/25/05	1345	LB	DISS	10/25/05	1415	LB	GENE2
LCS-122364		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
BLK122364		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219493-6MSD		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
^^ Dilution factor: 10									
219493-6MS		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
^^ Dilution factor: 10									
219493-6		10/25/05	1345	LB	DISS	10/25/05	1415	LB	GENE2
219493-5		10/25/05	1345	LB	DISS	10/25/05	1415	LB	GENE2
219493-6DUP		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219493-6		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219493-5		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219482-1		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219481-1		10/25/05	1130	LB		10/25/05	1415	LB	GENE2
219493-6MSDRR		10/25/05	1435	LB	REPORTED	10/25/05	1445	LB	GENE2
^^ Dilution factor: 10									
219493-6MSRR		10/25/05	1435	LB	REPORTED	10/25/05	1445	LB	GENE2
^^ Dilution factor: 10									

ASI**ANALYTICAL SERVICES, INC.**

Environmental Monitoring & Laboratory Services
110 Technology Parkway, Norcross, GA 30092
(770)734-4200 FAX (770)734-4201

LOG-IN CHECKLIST

Attn: Mr. James Beauchamp

Client: GLOBAL ENVIRONMENTAL SOLUTIONS INC. GA MARIETTA

Project: Grenada Manufacturing/ Grenada Mississippi

Recv'd : 10/25/2005

Logged By: CFH

NPDES:
Work Order: 219493

OBSERVATIONS

#Samples: 10 **#Containers:** 63

pH: Labeled Preserved

Temp(C): 3 **Ice:** Yes **Custody Seal(s):** Not Present

CHECKLIST ITEMS**

- | | |
|--|-----|
| 1. COC included with Samples | Yes |
| 2. Chain of Custody Complete | Yes |
| 3. Sample Container(s) Intact | Yes |
| 4. Sample Container(s) Match COC | Yes |
| 5. Params Designated by Client on COC | Yes |
| 6. Temperature in Compliance | Yes |
| 7. Sufficient Sample Volume for Analysis | Yes |
| 8. Zero HeadSpace Maintained for VOA Analyses | Yes |
| 9. Samples labeled preserved (if applicable) | Yes |
| 10. Samples Received within Allowable Hold Times | Yes |

Temperature by IR Gun.

Cooled by Ice.

CFH.

APPENDIX C

Statistical Analyses

GROUNDWATER SUMMARY TABLE (mg/L)
Grenada Manufacturing, LLC

Well ID/ MW/RT-2	Sample Date	1,1,1-TCA	1,1,2-TCA	1,1-DCE	1,1-DCA	1,1,2-DCE	Benzene	Chloroethane	PCE	TCE	Vinyl Chloride	o-Xylene (Xylenes)	1,2,4-TCB	Cr (total)	Ethylbenzene	Toluene
01-Mar-00	0.013	<0.005	0.0255	0.0103	0.0141	0.0018	<0.010	0.0392	21.6	0.173	<0.005	0.054	13.2	0.0021	0.0257	
01-Jul-00	<0.005	<0.005	0.0393	<0.125	<0.125	<0.005	<0.005	<0.005	10.7	0.297	<0.005	0.0238	10.8	<0.125	<0.125	
11-Apr-01	<0.005	0.0017	0.0081	0.0024	0.0043	<0.005	<0.010	<0.005	4.24	0.0308	NA	0.004	2.67	<0.005	<0.005	
18-Oct-01	<0.25	<0.25	<0.025	<0.125	<0.25	<0.025	<0.025	<0.025	46.2	0.182	NA	0.0325	0.0131	<0.25	<0.25	
16-Apr-02	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	36.4	0.394	NA	0.0439	2.84	<0.25	<0.25	
22-Oct-02	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	18.0	0.76	<0.25	0.284	3.27	<0.25	<0.25	
23-Apr-03	<0.01	0.033	<0.010	0.0103	0.0268	<0.010	<0.020	<0.010	2.55	1.18	<0.010	0.010	9.28	<0.010	<0.010	
15-Oct-03	0.00884	0.0007	0.105	0.0347	0.0403	0.0169	<0.010	0.00751	4.19	2.73	<0.0075	<0.010	3.86	<0.005	<0.005	
01-Apr-04	<0.005	0.0097	0.127	0.128	0.0547	0.0205	0.0177	0.00703	4.88	2.96	<0.005	0.0112	12	<0.005	<0.005	
25-Oct-04	<0.005	<0.0102	0.0855	0.0403	0.0165	<0.003	0.00768	4.98	2.62	<0.005	<0.010	7.85	<0.005	<0.005		
28-Apr-05	<0.050	0.050	0.116	0.0942	0.0623	<0.050	0.0030	0.0632	20.8	1.66	<0.050	0.0344	12.4	<0.050	<0.050	
24-Oct-05	0.029	0.009	0.05	0.037	0.065	0.007	0.003	0.073	22	0.62	0.12	0.048	63	0.014	1.3	
MW/RT-4																
01-Mar-00	<0.005	<0.005	0.0043	<0.005	0.0159	<0.005	<0.010	<0.005	0.232	0.073	<0.005	<0.0118	<0.010	<0.005	<0.005	
01-Jul-00	<0.005	<0.005	0.0115	0.0059	0.0425	<0.005	<0.010	<0.005	0.222	0.849	<0.005	<0.010	<0.010	<0.005	<0.005	
11-Apr-01	<0.005	<0.005	0.003	0.0026	0.0122	<0.005	<0.010	<0.005	0.126	0.124	NA	<0.010	<0.010	<0.005	<0.005	
18-Oct-01	<0.005	<0.005	0.0059	0.0032	0.0224	<0.005	<0.010	<0.005	0.179	0.355	NA	<0.010	<0.010	<0.005	<0.005	
16-Apr-02	<0.005	<0.005	0.0051	0.0035	0.0161	<0.005	<0.005	<0.005	0.165	0.161	NA	<0.010	<0.010	<0.005	<0.005	
22-Oct-02	<0.005	<0.005	0.0074	<0.005	0.043	<0.005	<0.010	<0.005	0.23	<0.005	0.005	<0.013	<0.010	<0.005	<0.005	
23-Apr-03	<0.005	<0.005	0.00924	0.00563	0.04	<0.005	<0.010	<0.005	0.452	0.247	<0.005	<0.010	<0.010	<0.005	<0.005	
15-Oct-03	<0.005	<0.005	0.0161	0.00755	0.056	<0.005	<0.010	<0.005	0.579	0.374	<0.005	<0.010	<0.005	<0.005	<0.005	
01-Apr-04	<0.005	<0.005	0.0129	0.00713	0.0507	<0.005	<0.010	<0.005	0.441	0.394	<0.005	<0.010	<0.005	<0.005	<0.005	
25-Oct-04	<0.005	<0.005	0.0139	0.00711	0.0553	<0.003	<0.003	<0.005	0.369	0.442	<0.005	<0.010	<0.005	<0.005	<0.005	
28-Apr-05	<0.050	<0.050	<0.050	<0.050	0.0507	<0.050	<0.030	<0.050	0.966	0.363	<0.050	<0.010	<0.005	<0.050	<0.050	
24-Oct-05	<0.002	0.013	0.007	0.006	<0.002	<0.002	<0.002	<0.002	0.77	0.46	<0.005	<0.010	<0.010	<0.002	<0.005	
MW/RT-5																
01-Mar-00	<0.005	<0.005	0.006	0.0031	0.0295	<0.005	<0.010	<0.005	1.33	0.0973	<0.005	0.0026	0.012	<0.005	<0.005	
01-Jul-00	<0.005	<0.005	0.0047	0.0029	0.0187	<0.005	<0.010	<0.005	0.469	0.17	<0.005	<0.010	<0.010	<0.005	<0.005	
11-Apr-01	<0.005	<0.005	0.0034	0.002	0.0078	<0.005	<0.010	<0.005	0.668	0.0441	NA	<0.010	<0.010	<0.005	<0.005	
18-Oct-01	<0.005	<0.005	0.0033	0.002	0.0034	<0.005	<0.010	<0.005	0.516	0.0561	NA	<0.010	<0.010	<0.005	<0.005	
16-Apr-02	<0.005	<0.005	0.0073	0.0069	0.0057	<0.005	<0.010	<0.005	1.33	0.0861	NA	<0.010	0.0212	<0.005	<0.005	
22-Oct-02	<0.005	<0.005	0.0065	<0.005	0.0065	<0.005	<0.010	<0.005	0.35	0.024	<0.005	<0.010	0.0187	<0.005	<0.005	
23-Apr-03	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.010	<0.005	6.24	0.269	<0.05	0.0184	0.897	<0.050	<0.050	
15-Oct-03	0.00521	<0.005	0.00521	0.0039	0.021	<0.005	<0.010	<0.005	6.22	0.215	<0.005	<0.010	0.106	<0.005	<0.005	
01-Apr-04	0.00806	0.00566	0.0432	0.0392	0.0236	<0.005	<0.010	<0.005	7.51	0.232	<0.005	<0.010	0.179	<0.005	<0.005	
25-Oct-04	<0.005	0.0114	0.0486	0.0262	0.0216	<0.005	<0.003	<0.003	0.06768	5.04	<0.005	<0.010	0.01	<0.005	<0.005	
28-Apr-05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.030	<0.030	7.04	0.219	<0.050	<0.010	<0.010	<0.050	<0.050	
24-Oct-05	0.004	0.004	0.026	0.019	0.022	<0.002	<0.002	0.01	6.1	0.18	<0.005	<0.010	<0.010	<0.002	<0.002	
MW-23																
11-Apr-01	<0.125	<0.125	<0.125	<0.125	<0.125	<0.125	<0.125	<0.125	11.3	0.245	NA	0.0044	0.0367	<0.125	<0.125	
18-Oct-01	<0.025	0.0154	<0.025	0.0134	<0.025	<0.050	<0.050	<0.025	2.72	0.283	NA	<0.010	0.0241	<0.025	<0.025	
16-Apr-02	<0.025	0.0206	0.0123	0.0401	<0.025	<0.025	<0.025	<0.025	5.14	0.14	NA	0.0306	1.07*	<0.025	<0.025	
22-Oct-02	<0.025	<0.025	<0.025	<0.025	<0.025	<0.050	<0.050	<0.025	4.2	0.14	NA	0.0225	0.0314	<0.025	<0.025	
18-Oct-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
14-Nov-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
12-Dec-02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
23-Apr-03	<0.01	0.0166	<0.010	0.0252	<0.010	<0.020	<0.020	<0.020	2.36	0.191	<0.01	0.0684	0.895*	<0.010	<0.010	
27-May-03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.236	NA	NA	
15-Oct-03	<0.005	0.0119	<0.005	0.00876	<0.005	<0.010	<0.010	<0.005	1.54	0.0931	<0.005	<0.010	0.01	<0.005	<0.005	
01-Apr-04	<0.005	0.0322	0.0122	0.00807	<0.005	<0.010	<0.010	<0.005	1.93	0.213	<0.005	<0.010	0.014	<0.005	<0.005	
25-Oct-04	<0.005	0.005	0.0124	<0.005	0.00930	<0.005	<0.003	<0.003	0.835	0.0986	<0.005	<0.014	0.034	<0.005	<0.005	
28-Apr-05	<0.005	0.0283	0.0105	0.0149	<0.005	<0.003	<0.003	<0.003	3.46	0.207	<0.005	<0.010	0.07	<0.002	<0.002	
24-Oct-05	<0.002	0.002	0.01	0.004	0.008	<0.002	<0.002	<0.002	16	0.08	<0.005	<0.010	0.07	<0.002	<0.002	

* Outlier, concentration not used in statistical evaluation.

# Holes	6	8	3
# Obs	42	46	48
% ND	85.7%	81.0%	93.0%
% ND bkg	100.0%	100.0%	100.0%

2	3
48	48
95.8%	93.0%
100.0%	100.0%

Upper Background Limit (UBL)
Sample Date: April 2001-October 2005
Background: MW-23
%ND = 100% in background

Grenada Manufacturing, LLC

1,1,1-Trichloroethane

UBL = 0.0232 mg/L
Exceedance: MW/RT-2 (0.029 mg/L)

Tetrachloroethene

UBL = 0.0232 mg/L
Exceedance: MW/RT-2 (0.073 mg/L)

1,1,2-Trichloroethane

UBL = 0.0232 mg/L
No Exceedances

Xylenes

UBL = 0.00857 mg/L
Exceedance: MW/RT-2 (0.12 mg/L)

Benzene

UBL = 0.0232 mg/L
No Exceedances

Chloroethane

UBL = 0.0232 mg/L
No Exceedances

Ethylbenzene

UBL = 0.0232 mg/L
No Exceedances

Toluene

UBL = 0.0232 mg/L
Exceedance: MW/RT-2 (1.3 mg/L)

Shapiro-Wilks Test of Normality

Parameter: Vinyl Chloride

Background Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.08	0.283	0.203	0.116502
2	0.0931	0.245	0.1519	0.0499903
3	0.0986	0.223	0.1244	0.026634
4	0.14	0.213	0.073	0.0089352
5	0.191	0.207	0.016	0.0006384
6	0.207	0.191	-0.016	
7	0.213	0.14	-0.073	
8	0.223	0.0986	-0.1244	
9	0.245	0.0931	-0.1519	
10	0.283	0.08	-0.203	

Sum of b values = 0.2027

Sample Standard Deviation = 0.0701826

W Statistic = 0.926839

5% Critical value of 0.842 is less than 0.926839

Data is normally distributed at 95% level of significance

1% Critical value of 0.781 is less than 0.926839

Data is normally distributed at 99% level of significance

Parametric Prediction Interval Analysis

Inter-Well Comparison

Parameter: Vinyl Chloride

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Inter-Well USEPA Style 95% Comparison

Number of comparisons = 3

Future Samples (k) = 3 = lesser of 5 or number of comparisons

Recent Dates = 1

Background Samples = 10

Background mean = 0.17737 Std Dev = 0.0701826

95% confidence t = 2.50959 at 9 degrees of freedom

Actual confidence level is 1.0 - (0.05/3) = 98.3333 %

Well MWRT-2

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	0.62	[0, 0.362096]	TRUE

Well MWRT-4

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	0.46	[0, 0.362096]	TRUE

Well MWRT-5

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	0.18	[0, 0.362096]	FALSE

Shapiro-Wilks Test of Normality

Parameter: Chromium

Background Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

K = 6; Samples = 12

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.0025	0.236	0.2335	0.127841
2	0.007	0.07	0.063	0.0209475
3	0.01	0.056	0.046	0.0107962
4	0.014	0.046	0.032	0.0050752
5	0.0241	0.0367	0.0126	0.00116172
6	0.0314	0.034	0.0026	7.878e-005
7	0.034	0.0314	-0.0026	
8	0.0367	0.0241	-0.0126	
9	0.046	0.014	-0.032	
10	0.056	0.01	-0.046	
11	0.07	0.007	-0.063	
12	0.236	0.0025	-0.2335	

Sum of b values = 0.165901

Sample Standard Deviation = 0.0628215

W Statistic = 0.633996

5% Critical value of 0.859 exceeds 0.633996

Evidence of non-normality at 95% level of significance

1% Critical value of 0.805 exceeds 0.633996

Evidence of non-normality at 99% level of significance

Shapiro-Wilks Test of Normality

Parameter: Chromium

Background Wells

Normality Test of Parameter Concentrations

Natural Logarithm Transformation

Non-Detects Replaced with 1/2 DL

K = 6; Samples = 12

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	-5.99146	-1.44392	4.54754	0.5475
2	-4.96185	-2.65926	2.30259	0.3325
3	-4.60517	-2.8824	1.72277	0.2347
4	-4.2687	-3.07911	1.18958	0.1586
5	-3.72554	-3.30498	0.420565	0.0922
6	-3.46095	-3.38139	0.0795526	0.0303
7	-3.38139	-3.46095	-0.0795526	
8	-3.30498	-3.72554	-0.420565	
9	-3.07911	-4.2687	-1.18958	
10	-2.8824	-4.60517	-1.72277	
11	-2.65926	-4.96185	-2.30259	
12	-1.44392	-5.99146	-4.54754	

Sum of b values = 3.88958

Sample Standard Deviation = 1.18684

W Statistic = 0.976397

5% Critical value of 0.859 is less than 0.976397

Data is normally distributed at 95% level of significance

1% Critical value of 0.805 is less than 0.976397

Data is normally distributed at 99% level of significance

Parametric Prediction Interval Analysis

Inter-Well Comparison

Parameter: Chromium

Natural Logarithm Transformation

Non-Detects Replaced with 1/2 DL

Inter-Well USEPA Style 95% Comparison

Number of comparisons = 3

Future Samples (k) = 3 = lesser of 5 or number of comparisons

Recent Dates = 1

Background Samples = 12

Background mean = -3.64706 Std Dev = 1.18684

95% confidence t = 2.43129 at 11 degrees of freedom

Actual confidence level is $1.0 - (0.05/3) = 98.3333\%$

Well MWRT-2

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	4.14313	[0, -0.643682]	TRUE

Well MWRT-4

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-5.29832	[0, -0.643682]	FALSE

Well MWRT-5

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-5.29832	[0, -0.643682]	FALSE

Shapiro-Wilks Test of Normality

Parameter: 1,1-Dichloroethene

Background Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Aitchison's Adjustment

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.01	0.125	0.115	0.5739
2	0.0119	0.0322	0.0203	0.3291
3	0.0124	0.0283	0.0159	0.2141
4	0.0154	0.025	0.0096	0.1224
5	0.0166	0.0206	0.004	0.0399
6	0.0206	0.0166	-0.004	
7	0.025	0.0154	-0.0096	
8	0.0283	0.0124	-0.0159	
9	0.0322	0.0119	-0.0203	
10	0.125	0.01	-0.115	

Sum of b values = 0.0774181

Sample Standard Deviation = 0.0342791

W Statistic = 0.56674

5% Critical value of 0.842 exceeds 0.56674

Evidence of non-normality at 95% level of significance

1% Critical value of 0.781 exceeds 0.56674

Evidence of non-normality at 99% level of significance

Shapiro-Wilks Test of Normality

Parameter: 1,1-Dichloroethene

Background Wells

Normality Test of Parameter Concentrations

Natural Logarithm Transformation

Aitchison's Adjustment

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	-4.60517	-2.07944	2.52573	0.5739
2	-4.43122	-3.43579	0.995428	0.3291
3	-4.39006	-3.56489	0.825165	0.2141
4	-4.17339	-3.68888	0.484508	0.1224
5	-4.09835	-3.88246	0.215888	0.0399
6	-3.88246	-4.09835	-0.215888	
7	-3.68888	-4.17339	-0.484508	
8	-3.56489	-4.39006	-0.825165	
9	-3.43579	-4.43122	-0.995428	
10	-2.07944	-4.60517	-2.52573	

Sum of b values = 2.0217

Sample Standard Deviation = 0.72866

W Statistic = 0.855342

5% Critical value of 0.842 is less than 0.855342

Data is normally distributed at 95% level of significance

1% Critical value of 0.781 is less than 0.855342

Data is normally distributed at 99% level of significance

Parametric Prediction Interval Analysis

Inter-Well Comparison

Parameter: 1,1-Dichloroethene

Natural Logarithm Transformation

Aitchison's Adjustment

Inter-Well USEPA Style 95% Comparison

Number of comparisons = 3

Future Samples (k) = 3 = lesser of 5 or number of comparisons

Recent Dates = 1

Background Samples = 10

Background mean = -3.25813 Std Dev = 1.75632

95% confidence t = 2.50959 at 9 degrees of freedom

Actual confidence level is 1.0 - (0.05/3) = 98.3333 %

Well MWRT-2

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-2.99573	[0, 1.36463]	FALSE

Well MWRT-4

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-4.34281	[0, 1.36463]	FALSE

Well MWRT-5

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-3.64966	[0, 1.36463]	FALSE

Shapiro-Wilks Test of Normality

Parameter: Trichloroethene

Background Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.835	16	15.165	0.5739
2	1.54	11.3	9.76	0.3291
3	1.93	5.14	3.21	0.2141
4	2.36	4.2	1.84	0.1224
5	2.72	3.46	0.74	0.0399
6	3.46	2.72	-0.74	
7	4.2	2.36	-1.84	
8	5.14	1.93	-3.21	
9	11.3	1.54	-9.76	
10	16	0.835	-15.165	

Sum of b values = 12.8572

Sample Standard Deviation = 4.88315

W Statistic = 0.770284

5% Critical value of 0.842 exceeds 0.770284

Evidence of non-normality at 95% level of significance

1% Critical value of 0.781 exceeds 0.770284

Evidence of non-normality at 99% level of significance

Shapiro-Wilks Test of Normality

Parameter: Trichloroethene

Background Wells

Normality Test of Parameter Concentrations

Natural Logarithm Transformation

Non-Detects Replaced with Detection Limit

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	-0.180324	2.77259	2.95291	0.5739
2	0.431782	2.4248	1.99302	0.3291
3	0.65752	1.63705	0.979533	0.2141
4	0.858662	1.43508	0.576423	0.1224
5	1.00063	1.24127	0.240637	0.0399
6	1.24127	1.00063	-0.240637	
7	1.43508	0.858662	-0.576423	
8	1.63705	0.65752	-0.979533	
9	2.4248	0.431782	-1.99302	
10	2.77259	-0.180324	-2.95291	

Sum of b values = 2.64045

Sample Standard Deviation = 0.8919

W Statistic = 0.973828

5% Critical value of 0.842 is less than 0.973828

Data is normally distributed at 95% level of significance

1% Critical value of 0.781 is less than 0.973828

Data is normally distributed at 99% level of significance

Parametric Prediction Interval Analysis

Inter-Well Comparison

Parameter: Trichloroethene

Natural Logarithm Transformation

Non-Detects Replaced with Detection Limit

Inter-Well USEPA Style 95% Comparison

Number of comparisons = 3

Future Samples (k) = 3 = lesser of 5 or number of comparisons

Recent Dates = 1

Background Samples = 10

Background mean = 1.22791 Std Dev = 0.8919

95% confidence t = 2.50959 at 9 degrees of freedom

Actual confidence level is 1.0 - (0.05/3) = 98.3333 %

Well MWRT-2

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	3.09104	[0, 3.57546]	FALSE

Well MWRT-4

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-0.261365	[0, 3.57546]	FALSE

Well MWRT-5

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	1.80829	[0, 3.57546]	FALSE

Shapiro-Wilks Test of Normality

Parameter: t-1,2-Dichloroethene

Background Wells

Normality Test of Parameter Concentrations

Original Data (Not Transformed)

Aitchison's Adjustment

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	0.008	0.125	0.117	0.5739
2	0.00876	0.0401	0.03134	0.3291
3	0.009	0.0252	0.0162	0.2141
4	0.0122	0.025	0.0128	0.1224
5	0.0134	0.0149	0.0015	0.0399
6	0.0149	0.0134	-0.0015	
7	0.025	0.0122	-0.0128	
8	0.0252	0.009	-0.0162	
9	0.0401	0.00876	-0.03134	
10	0.125	0.008	-0.117	

Sum of b values = 0.0825553

Sample Standard Deviation = 0.0354927

W Statistic = 0.601131

5% Critical value of 0.842 exceeds 0.601131

Evidence of non-normality at 95% level of significance

1% Critical value of 0.781 exceeds 0.601131

Evidence of non-normality at 99% level of significance

Shapiro-Wilks Test of Normality

Parameter: t-1,2-Dichloroethene

Background Wells

Normality Test of Parameter Concentrations

Natural Logarithm Transformation

Aitchison's Adjustment

K = 5; Samples = 10

i	x(i)	x(n-i+1)	x(n-1+1)-x(i)a(n-i+1)	b(i)
1	-4.82831	-2.07944	2.74887	0.5739
2	-4.73756	-3.21638	1.52118	0.3291
3	-4.71053	-3.68091	1.02962	0.2141
4	-4.40632	-3.68888	0.71744	0.1224
5	-4.3125	-4.20639	0.106107	0.0399
6	-4.20639	-4.3125	-0.106107	
7	-3.68888	-4.40632	-0.71744	
8	-3.68091	-4.71053	-1.02962	
9	-3.21638	-4.73756	-1.52118	
10	-2.07944	-4.82831	-2.74887	

Sum of b values = 2.39069

Sample Standard Deviation = 0.852432

W Statistic = 0.873945

5% Critical value of 0.842 is less than 0.873945

Data is normally distributed at 95% level of significance

1% Critical value of 0.781 is less than 0.873945

Data is normally distributed at 99% level of significance

Parametric Prediction Interval Analysis

Inter-Well Comparison

Parameter: t-1,2-Dichloroethene

Natural Logarithm Transformation

Aitchison's Adjustment

Inter-Well USEPA Style 95% Comparison

Number of comparisons = 3

Future Samples (k) = 3 = lesser of 5 or number of comparisons

Recent Dates = 1

Background Samples = 10

Background mean = -3.40989 Std Dev = 1.8641

95% confidence t = 2.50959 at 9 degrees of freedom

Actual confidence level is 1.0 - (0.05/3) = 98.3333 %

Well MWRT-2

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-2.73337	[0, 1.49657]	FALSE

Well MWRT-4

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-2.81341	[0, 1.49657]	FALSE

Well MWRT-5

Date	Samples	Mean	Interval	Impacted
10/24/2005	1	-3.81671	[0, 1.49657]	FALSE

Kruskal-Wallis Non-Parametric Test

Parameter: 1,1-Dichloroethane

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
MW-23	4/11/2001	ND<0.0625	9
	10/18/2001	ND<0.0125	9
	4/16/2002	0.0123	37
	10/22/2002	ND<0.0125	9
	4/23/2003	ND<0.005	9
	10/15/2003	ND<0.0025	9
	4/1/2004	0.00807	34
	10/25/2004	ND<0.0025	9
	4/28/2005	0.0105	36
	10/24/2005	0.004	26

Rank Sum = 187

Rank Mean = 18.7

Background Rank Sum = 187

Background Rank Mean = 18.7

Compliance Wells

Well ID	Date	Result	Rank
MWRT-2	3/1/2000	0.0103	35
	7/1/2000	ND<0.0625	9
	4/11/2001	0.0024	20
	10/18/2001	ND<0.125	9
	4/16/2002	ND<0.125	9
	10/22/2002	ND<0.125	9
	4/23/2003	ND<0.005	9
	10/15/2003	0.0347	42
	4/1/2004	0.128	46
	10/25/2004	0.0403	44
	4/28/2005	0.0942	45
	10/24/2005	0.037	43

Rank Sum = 320

Rank Mean = 26.6667

MWRT-4	3/1/2000	ND<0.0025	9
	7/1/2000	0.0059	28
	4/11/2001	0.0026	21
	10/18/2001	0.0032	24
	4/16/2002	0.0035	25
	10/22/2002	ND<0.0025	9
	4/23/2003	0.00563	27
	10/15/2003	0.00755	33
	4/1/2004	0.00713	32
	10/25/2004	0.00711	31
	4/28/2005	ND<0.025	9

10/24/2005 0.007 30

Rank Sum = 278

Rank Mean = 23.1667

MWRT-5	3/1/2000	0.0031	23
	7/1/2000	0.0029	22
	4/11/2001	0.002	18
	10/18/2001	0.002	19
	4/16/2002	0.0069	29
	10/22/2002	ND<0.0025	9
	4/23/2003	ND<0.025	9
	10/15/2003	0.021	39
	4/1/2004	0.0309	41
	10/25/2004	0.0262	40
	4/28/2005	ND<0.025	9
	10/24/2005	0.019	38

Rank Sum = 296

Rank Mean = 24.6667

Calculation Results:

Kruskal-Wallis H Statistic = 2.04477

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 2.15313

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

2.04477 < 7.81472 indicating no significant group difference at 5% significance level

2.15313 < 7.81472 indicating no significant group difference at 5% significance level when adjusted for ties

Kruskal-Wallis Non-Parametric Test

Parameter: 1,2,4-Trichlorobenzene

Original Data (Not Transformed)

Non-Detects Replaced with 1/2 DL

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
MW-23	4/11/2001	0.0044	33
	10/18/2001	ND<0.005	14.5
	4/16/2002	0.0306	40
	10/22/2002	0.0028	31
	4/23/2003	0.0684	46
	10/15/2003	ND<0.005	14.5
	4/1/2004	ND<0.005	14.5
	10/25/2004	ND<0.005	14.5
	4/28/2005	0.0149	35
	10/24/2005	ND<0.005	14.5

Rank Sum = 257.5

Rank Mean = 25.75

Background Rank Sum = 257.5

Background Rank Mean = 25.75

Compliance Wells

Well ID	Date	Result	Rank
MWRT-2	3/1/2000	0.054	45
	7/1/2000	0.0238	38
	4/11/2001	0.004	32
	10/18/2001	0.0325	41
	4/16/2002	0.0439	43
	10/22/2002	0.0284	39
	4/23/2003	0.0203	37
	10/15/2003	ND<0.005	14.5
	4/1/2004	0.0112	34
	10/25/2004	ND<0.005	14.5
	4/28/2005	0.0344	42
	10/24/2005	0.048	44

Rank Sum = 424

Rank Mean = 35.3333

MWRT-4	3/1/2000	ND<0.0059	14.5
	7/1/2000	ND<0.005	14.5
	4/11/2001	ND<0.005	14.5
	10/18/2001	ND<0.005	14.5
	4/16/2002	ND<0.005	14.5
	10/22/2002	0.0013	29
	4/23/2003	ND<0.005	14.5
	10/15/2003	ND<0.005	14.5
	4/1/2004	ND<0.005	14.5
	10/25/2004	ND<0.005	14.5
	4/28/2005	ND<0.005	14.5

10/24/2005 ND<0.005 14.5

Rank Sum = 188.5

Rank Mean = 15.7083

MWRT-5	3/1/2000	0.0026	30
	7/1/2000	ND<0.005	14.5
	4/11/2001	ND<0.005	14.5
	10/18/2001	ND<0.005	14.5
	4/16/2002	ND<0.005	14.5
	10/22/2002	ND<0.005	14.5
	4/23/2003	0.0184	36
	10/15/2003	ND<0.005	14.5
	4/1/2004	ND<0.005	14.5
	10/25/2004	ND<0.005	14.5
	4/28/2005	ND<0.005	14.5
	10/24/2005	ND<0.005	14.5

Rank Sum = 211

Rank Mean = 17.5833

Calculation Results:

Kruskal-Wallis H Statistic = 15.9828

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 20.6322

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

15.9828 > 7.81472 indicating a significant group difference at 5% significance level

20.6322 > 7.81472 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1.66667% Significance Level per Comparison

1.66667% Z score is 2.14441

Mean background rank is 25.75

Well	Mean Rank	Dif from Bkg	Critical Value
MWRT-2	35.3333	9.58333	12.3244
MWRT-4	15.7083	-10.0417	12.3244
MWRT-5	17.5833	-8.16667	12.3244

Individual Well Comparisons at Groupwise 5% Significance Level

(1.66667% Significance Level per comparison)

1.66667% Z score is 2.14441

Mean background rank is 25.75

Well	Mean Rank	Dif from Bkg	Critical Value
MWRT-2	35.3333	9.58333	12.3244
MWRT-4	15.7083	-10.0417	12.3244
MWRT-5	17.5833	-8.16667	12.3244

Poisson Prediction Limit

Parameter: Xylenes

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Recent Dates = 1

Poisson Count of 7 background Samples = 0.06

99% t-test = 3.14267

95% t-test = 1.94318

Well: MW/RT-2

Number of comparisons = 1

Future Samples (k) = 1

c = 0.142857

99% Prediction Limit (Tk) = 1.48501

95% Prediction Limit (Tk) = 0.609542

Samples	Sum	95 %tile	99 %tile
1	0.12	FALSE	FALSE

Well: MW/RT-4

Number of comparisons = 1

Future Samples (k) = 1

c = 0.142857

99% Prediction Limit (Tk) = 1.48501

95% Prediction Limit (Tk) = 0.609542

Samples	Sum	95 %tile	99 %tile
1	0.005	FALSE	FALSE

Well: MW/RT-5

Number of comparisons = 1

Future Samples (k) = 1

c = 0.142857

99% Prediction Limit (Tk) = 1.48501

95% Prediction Limit (Tk) = 0.609542

Samples	Sum	95 %tile	99 %tile
1	0.005	FALSE	FALSE

Kruskal-Wallis Non-Parametric Test

Parameter: Tetrachloroethene

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
MW-23	4/11/2001	ND<0.125	19
	10/18/2001	ND<0.025	19
	4/16/2002	ND<0.025	19
	10/22/2002	ND<0.025	19
	4/23/2003	ND<0.01	19
	10/15/2003	ND<0.005	19
	4/1/2004	ND<0.005	19
	10/25/2004	ND<0.005	19
	4/28/2005	ND<0.005	19
	10/24/2005	ND<0.002	19

Rank Sum = 190

Rank Mean = 19

Background Rank Sum = 190

Background Rank Mean = 19

Compliance Wells

Well ID	Date	Result	Rank
MW/RT-2	3/1/2000	0.0392	44
	7/1/2000	ND<0.005	19
	4/11/2001	ND<0.005	19
	10/18/2001	ND<0.25	19
	4/16/2002	ND<0.25	19
	10/22/2002	ND<0.25	19
	4/23/2003	ND<0.01	19
	10/15/2003	0.00751	41
	4/1/2004	0.00703	40
	10/25/2004	0.00768	42

Rank Sum = 372

Rank Mean = 31

MW/RT-4	3/1/2000	ND<0.005	19
	7/1/2000	ND<0.005	19
	4/11/2001	ND<0.005	19
	10/18/2001	ND<0.005	19
	4/16/2002	ND<0.005	19
	10/22/2002	ND<0.005	19
	4/23/2003	ND<0.005	19
	10/15/2003	ND<0.005	19
	4/1/2004	ND<0.005	19
	10/25/2004	ND<0.005	19
	4/28/2005	ND<0.05	19

10/24/2005 ND<0.002 19

Rank Sum = 228

Rank Mean = 19

MW/RT-5	3/1/2000	ND<0.005	19
	7/1/2000	ND<0.005	19
	4/11/2001	ND<0.005	19
	10/18/2001	ND<0.005	19
	4/16/2002	ND<0.005	19
	10/22/2002	ND<0.005	19
	4/23/2003	ND<0.05	19
	10/15/2003	ND<0.005	19
	4/1/2004	0.00569	38
	10/25/2004	0.00678	39
	4/28/2005	ND<0.05	19
	10/24/2005	0.01	43

Rank Sum = 291

Rank Mean = 24.25

Calculation Results:

Kruskal-Wallis H Statistic = 6.25671

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 13.0418

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

6.25671 < 7.81472 indicating no significant group difference at 5% significance level

13.0418 > 7.81472 indicating a significant group difference at 5% significance level when adjusted for ties

Individual Well Comparisons at 1.66667% Significance Level per Comparison

1.66667% Z score is 2.14441

Mean background rank is 19

Well	Mean Rank	Dif from Bkg	Critical Value
MW/RT-2	31	12	12.3244
MW/RT-4	19	0	12.3244
MW/RT-5	24.25	5.25	12.3244

Individual Well Comparisons at Groupwise 5% Significance Level

(1.66667% Significance Level per comparison)

1.66667% Z score is 2.14441

Mean background rank is 19

Well	Mean Rank	Dif from Bkg	Critical Value
MW/RT-2	31	12	12.3244
MW/RT-4	19	0	12.3244
MW/RT-5	24.25	5.25	12.3244

Kruskal-Wallis Non-Parametric Test

Parameter: 1,1,1-Trichloroethane

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Kruskal Wallis Ranks

Background Wells

Well ID	Date	Result	Rank
MW-23	4/11/2001	ND<0.125	20.5
	10/18/2001	ND<0.025	20.5
	4/16/2002	ND<0.025	20.5
	10/22/2002	ND<0.025	20.5
	4/23/2003	ND<0.01	20.5
	10/15/2003	ND<0.005	20.5
	4/1/2004	ND<0.005	20.5
	10/25/2004	ND<0.005	20.5
	4/28/2005	ND<0.005	20.5
	10/24/2005	ND<0.002	20.5

Rank Sum = 205

Rank Mean = 20.5

Background Rank Sum = 205

Background Rank Mean = 20.5

Compliance Wells

Well ID	Date	Result	Rank
MW/RT-2	3/1/2000	0.013	45
	7/1/2000	ND<0.005	20.5
	4/11/2001	ND<0.005	20.5
	10/18/2001	ND<0.25	20.5
	4/16/2002	ND<0.25	20.5
	10/22/2002	ND<0.25	20.5
	4/23/2003	ND<0.01	20.5
	10/15/2003	0.00884	44
	4/1/2004	ND<0.005	20.5
	10/25/2004	ND<0.005	20.5
MW/RT-4	4/28/2005	ND<0.05	20.5
	10/24/2005	0.029	46

Rank Sum = 319.5

Rank Mean = 26.625

MW/RT-4	3/1/2000	ND<0.005	20.5
	7/1/2000	ND<0.005	20.5
	4/11/2001	ND<0.005	20.5
	10/18/2001	ND<0.005	20.5
	4/16/2002	ND<0.005	20.5
	10/22/2002	ND<0.005	20.5
	4/23/2003	ND<0.005	20.5
	10/15/2003	ND<0.005	20.5
	4/1/2004	ND<0.005	20.5
	10/25/2004	ND<0.005	20.5
	4/28/2005	ND<0.05	20.5

10/24/2005 ND<0.002 20.5

Rank Sum = 248

Rank Mean = 20.5

MW/RT-5	3/1/2000	ND<0.005	20.5
	7/1/2000	ND<0.005	20.5
	4/11/2001	ND<0.005	20.5
	10/18/2001	ND<0.005	20.5
	4/16/2002	ND<0.005	20.5
	10/22/2002	ND<0.005	20.5
	4/23/2003	ND<0.05	20.5
	10/15/2003	0.00521	42
	4/1/2004	0.00806	43
	10/25/2004	ND<0.005	20.5
	4/28/2005	ND<0.05	20.5
	10/24/2005	0.004	41

Rank Sum = 310.5

Rank Mean = 25.875

Calculation Results:

Kruskal-Wallis H Statistic = 2.12512

Kruskal-Wallis H Statistic (adjusted for tied non-detects) = 6.2032

95% Confidence comparison value is 7.81472 at 3 degrees of freedom

2.12512 < 7.81472 indicating no significant group difference at 5% significance level

6.2032 < 7.81472 indicating no significant group difference at 5% significance level when adjusted for ties